

September 11, 1998

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

Before Administrative Judge:
Charles Bechhoefer
(Dr. Richard F. Cole, Special Assistant)

In the Matter of)	
)	Docket No. 55-22234-SP
RANDALL L. HERRING)	
)	ASLBP No. 98-745-01-SP
(Denial of Application for Senior)	
Reactor Operator License))	

AFFIDAVIT OF D. CHARLES PAYNE

I, D. Charles Payne, having first been duly sworn, do hereby state as follows:

1. My name is D. Charles Payne. I am employed as a Reactor Engineer in the Operator Licensing and Human Performance Branch, Division of Reactor Safety, NRC Region II, in Atlanta, Georgia. I administered the operating test to Mr. Herring at the Catawba Nuclear Station (Catawba) on December 2-5, 1997 and December 16-18, 1997. I was also the NRC chief examiner in charge of the licensing examinations at Catawba. A statement of my professional qualifications is attached hereto.

2. This Affidavit is submitted by the NRC staff (Staff) in response to the written presentation dated August 13, 1998, submitted by Mr. Randall L. Herring (Presentation), in support of his request for a hearing on the NRC Staff's proposed denial of his application for a Senior Reactor Operator (SRO) license for use at the Catawba Nuclear Station, Units 1 and 2, operated by Duke Energy Corporation (DEC).

3. The Presentation includes the sworn written arguments of Mr. Herring and twelve supporting documents, nine [Items 2, 3, 4, 5, 6, 8, 10, 11, and 12] not already contained in the Hearing File.¹

4. On July 23, 1998, the Staff transmitted the Hearing File to the Presiding Officer and Mr. Herring, along with a numbered index thereto.² Items contained in the Hearing File are herein referred to by their designated "Item" number, as set forth in the Hearing File index.

5. Mr. Herring does not currently hold an NRC operating license and his position at Catawba at the time of license application was as staff engineer.

6. On November 6, 1997, Mr. Herring and his employer, DEC, submitted a "Personal Qualification Statement - Licensee" (NRC Form 398) (Hearing File Item 1), requesting that Mr. Herring be administered an examination for an SRO license. The NRC Region II Office, Atlanta, Georgia, received the application on November 12, 1997. I reviewed and approved Mr. Herring's application as meeting NRC experience and education requirements to be administered an SRO licensing examination on November 13, 1997.

¹ The Presentation notes that Hearing File Items 11 and 12 are slightly different from those identified in Hearing File Items 13 and 14. Mr. Herring's statement is correct in that Items 11 and 12 reflect the original DEC-Catawba draft examination submittal to the NRC staff in Region II of the administrative topic A.4 test questions. These test questions were revised during the course of examiner review of the draft submittal to that shown in Items 13 and 14. To avoid confusion, the final NRC-approved version of the applicant's copy and examiner's answer key for Administrative Set 4, topic A.4, Questions 1-3 are submitted as an attachment to this affidavit and under separate cover as update to the hearing file.

² An update to the Hearing File, along with an updated index, is being transmitted on September 11, 1998 under separate cover.

7. I began review of the draft examination prepared by the Catawba staff in the Region II office on October 31, 1997. On November 17, 1997, two other NRC examiners and I traveled to the Catawba site to continue review of the draft examination and to validate the operating test items.³ Validation included stepping through (a dry-run by the examiners) all events for each simulator scenario on the Catawba simulation facility. Five of the Category B job performance measures (JPMs) were also stepped through on the simulator while the remaining five system JPMs were walked down in the plant. In addition, this validation included a detailed review of the Category A JPMs and questions as well as the followup questions for all ten Category B JPMs. Validation was done in order to check for errors and to familiarize the examiners with all aspects of the operating test. During this week on site, the examiners met as a group with all the applicants to discuss the NRC's license examination process and to answer any specific questions asked by the applicants. During the meeting, I, as the chief examiner, read the policies and guidelines for taking the NRC examination verbatim from Appendix E, "Policies and Guidelines for Taking NRC Examinations," Interim Revision 8 of NUREG-1021 (NUREG-1021), "Operator Licensing Examination Standards for Power Reactors." (Hearing File Item 17). Specifically, both of the following paragraphs were read to each applicant. 1) Appendix E, Part C, paragraph 1 which states: "[I]f you are asked a question or directed to perform a task that is unclear,

³ The examination, including the simulator operating test, was prepared by DEC pursuant to a pilot program in which the NRC is evaluating the feasibility of revising 10 C.F.R. Part 55 to require facility licensees to write the operator licensing examinations. DEC prepared the operating test to the same specifications that the NRC Staff would have applied. The Staff reviewed the operating test in detail, made revisions as necessary, and approved the final product before it was administered.

you should not hesitate to ask for clarification." 2) Appendix E, Part C, paragraph 3 which states:

The operating test is considered 'open reference.' The reference material that is normally available to operators in the facility and in the control room (including calibration curves, previous log entries, piping and instrumentation diagrams, calculation sheets, and procedures) is also available to you during the operating test. However, you should know from memory certain automatic actions, set points, interlocks, operating characteristics, and the immediate actions of emergency and other procedures, as appropriate to the facility. If you desire to use a reference, you should ask the examiner if it is acceptable to do so for the task or question under consideration.

8. Having determined that Mr. Herring met the eligibility requirements to take the examination, NRC Region II, during the weeks of December 2, 1997, and December 15, 1997, administered operator licensing examinations to Mr. Herring and thirteen other license applicants at the Catawba facility. I administered the test to Mr. Herring and one other applicant. The written examination was administered by DEC-Catawba on December 12, 1997 to all fourteen candidates.

9. Prior to beginning Mr. Herring's operating test, I reminded him of the policies and guidelines that were read to him previously, (see paragraph 7 above), and gave him another opportunity to ask for clarification or to discuss any other issues related to the test. I do not recall Mr. Herring having any questions, concerns or misunderstandings associated with the policies and guidelines of Appendix E. Additionally, during Mr. Herring's walk-through examination, I did not deny use of any reference materials requested by the applicant.

10. Mr. Herring's licensing examination consisted of a 100-question written examination and an operating test, which included an individual plant walk-through test

(Categories A and B) and a crew-based, integrated plant operations performance test on a dynamic simulator (Category C). Applicants are required to pass both the written examination and the operating test, including Categories A, B and C, in order to receive a license. The licensing examination was prepared in accordance with the instructions of NUREG-1021.

11. Mr. Herring's individual plant walk-through test (Categories A and B of the operating test), which was administered over the course of three days December 16-18, 1997, consisted of DEC-Catawba developed and NRC approved administrative JPM and question Set No. 4 (Category A) and Control Room Systems and Facility Walk-through JPM Set No. 4 (Category B). Per ES-301.D.2 of NUREG-1021, Category A of the operating test consists of four administrative topic areas in which a license applicant must demonstrate satisfactory knowledge and ability. (Hearing File Item 34). The four topic areas are A.1 - Conduct of Operations, A.2 - Equipment Control, A.3 - Radiation Control, and A.4 - Emergency Plan. Per ES-303.D.2 of NUREG-1021, an unsatisfactory grade in any one topic area is sufficient to warrant an overall grade of unsatisfactory for Category A of the operating test depending on the importance of the identified deficiency. (Hearing File Item 19). Category B of the operating test consists of ten JPMs and associated follow-up questions to evaluate the applicant's control room/in-plant systems-related knowledge and abilities. A satisfactory grade on fewer than 80 percent of the systems will result in an overall grade of unsatisfactory for Category B of the operating test.

12. Mr. Herring failed to achieve a satisfactory grade for both Category A and Category B of his operating test. This resulted in an overall grade of unsatisfactory for his

operating test and his licensing examination. Mr. Herring's "Operator License Examination Report" (Form ES-303-1) is included in the Hearing File as Item 2. In particular, Mr. Herring received an unsatisfactory grade on administrative topic areas A.1, A.2, A.4 and control room/in-plant system JPMs B.1.4, B.2.2 and B.2.3. Accordingly, on January 20, 1998, NRC Region II license examiners signed Form ES-303-1 and recommended that Mr. Herring's application for an SRO license should be denied, notwithstanding the fact that he had successfully passed the written examination and the integrated plant operations portion (Category C) of the operating test. The Region II Chief of the Operator Licensing and Human Performance Branch (OL&HPB) independently reviewed and concurred with this recommendation on January 21, 1998.

13. In a letter dated January 27, 1998 (Hearing File Item 22), Mr. Thomas A. Peebles, Chief, OL&HPB, NRC Region II, informed Mr. Herring that the Staff proposed to deny his application for an SRO license due to his having failed the operating test. Mr. Herring was advised that he could request an informal NRC staff review or a hearing within 20 days. If he requested an informal review, he was to indicate which answers he believed were incorrectly graded and provide the basis with supporting documentation for his contentions. Upon receipt of that request and supporting information, the Staff would review his contentions, reconsider its grading and inform him of the results. If he still failed the examination, Mr. Herring could then request a hearing pursuant to 10 C.F.R. § 2.103(b)(2). (Hearing File Item 22).

14. On February 11, 1998, Mr. Herring responded to the NRC Staff's letter of January 27, 1998, and requested an informal review of his operating test grading. (Hearing

File Item 23). In particular, Mr. Herring requested the Staff to review the grading of his answers to three administrative topic areas (A.1, A.2, and A.4) and one control room/in-plant system (B.1.4) "due to being graded incorrectly or possibly too severely." The Staff acknowledged Mr. Herring's request for informal review in a letter dated February 18, 1998. (Hearing File Item 24).

15. An informal review of Mr. Herring's contentions was then undertaken by the Staff in NRC Region II in accordance with the procedures found in Examination Standard (ES) 502, "Processing Requests for Administrative Reviews and Hearings After Initial License Denial," of NUREG-1021. (Hearing File Item 21). The Staff considered the information supplied by Mr. Herring during the informal review phase of his appeal which resulted in a correction to the DEC-Catawba developed answer keys for topic A.1 and Question 2 of system JPM B.1.4. The revised answer keys supported the applicant's original answer and the grading of topic A.1 and Question 2 of JPM B.1.4 was changed to satisfactory. The impact of this regrading on Mr. Herring's licensing decision resulted in sustaining the overall unsatisfactory grade for Category A but resulted in an overall satisfactory grade for Category B.⁴ Consequently, on March 2, 1998, the Region II Staff recommended continued denial of Mr. Herring's application for an SRO license to the Chief of the Operator Licensing and Human Performance Branch (HOHB), Office of Nuclear Reactor Regulation (NRR). (Hearing File Item 25). On March 13, 1998, Mr. John Munro of HOHB, NRR, requested additional detail regarding the basis for the changes made in the

⁴ The grading of Mr. Herring's answers in Category B is not in contention and will not be addressed further in this affidavit.

grading of the two items discussed above and for those items sustaining the original unsatisfactory grading. I responded to this request via electronic mail and sent a supplement to the March 2, 1998, memorandum with additional detail. (Hearing File Item 26).

16. Following Region II's informal review, again in accordance with ES-502.D of NUREG-1021 (Hearing File Item 21), a three-person appeal board was selected from other regional offices to consider the remaining two test items in contention by Mr. Herring. In summary, the appeal board did not find merit in Mr. Herring's contentions as to topics A.2 and A.4, and agreed with the examiner's evaluation of the applicant's performance, but disagreed that Mr. Herring's performance in administrative topic A.4 should result in an unsatisfactory grade. As specified in ES-502.D.2.f, the appeal board chairperson discussed the board's proposed findings with me. On March 26, 1998, I provided additional information to the Chief, OL&HPB, Region II, who, following review, forwarded it to the appeal board for consideration. (Hearing File Item 27). In summary, I dissented with the appeal board's proposed recommendation to overturn the grading of administrative topic A.4. My response to the appeal board provided additional detail regarding the potential significant public health and safety impact resulting from the applicant's error as well as additional basis for why this was sufficient to assign a grade of unsatisfactory based on missing only one out of three questions. On April 10, 1998, the appeal board communicated its findings to the Chief of HOHB, NRR, and recommended that the denial of Mr. Herring's license application be overturned. (Hearing File Item 28). This recommendation was based on changing the grading of administrative topic A.4 to "satisfactory with comment" and the conclusion that the sustained grade of "unsatisfactory" for administrative topic A.2 did not

warrant an overall grade of unsatisfactory for the Administrative Topics area (Category A). The appeal board concluded that the applicant's incorrect answer for administrative topic A.4 was not of such safety significance to warrant a failure for the topic and referenced the ES-303 grading criteria for Category B as justification.

17. The HOHB Staff reviewed the appeal board's findings and recommendations as well as the additional information I provided to the board. In a May 16, 1998, memorandum to the Director of the Division of Reactor Controls and Human Factors (DRCH), NRR, the HOHB staff concluded that the applicant's performance in administrative topic A.4 was unsatisfactory and recommended that the denial of Mr. Herring's license application be sustained. (Hearing File Item 30). The HOHB staff also concluded that the appeal board's reference to the ES-303 grading criteria of Category B for grading Category A topics was incorrect. On May 18, 1998, the Staff transmitted a letter to Mr. Herring, in which it informed him that it had reviewed the grading of his operating test in light of the information he supplied. (Hearing File Item 31). The Staff concluded that he had passed Category B and received a satisfactory grade for administrative topic A.1, but that he still did not pass the Administrative Topics (Category A) of the operating test. The Staff concluded that Mr. Herring's errors in administrative topics A.2 and A.4 were significant and representative of unsatisfactory performance as defined in ES-303. Accordingly, the Staff determined that the proposed denial of Mr. Herring's SRO license application should be sustained, and advised him of his right to request a hearing in connection with the proposed denial. The Staff also advised Mr. Herring that, if he accepted the proposed denial, he could reapply for a license two

months from the date of the letter and that he could request a waiver of the written examination.

18. On June 7, 1998, Mr. Hering filed a request for hearing in connection with the proposed denial of his SRO license application. (Hearing File Item 32). In that document, Mr. Herring stated he disagreed with the NRC analysis and conclusions on contentions 3 and 4 of his request for informal review, and he did not accept the proposed denial. (Hearing File Item 23).

19. The Staff's expectations regarding SRO administrative knowledge, in general, and as they relate to Mr. Herring's walk-through operating test, are set forth in the following paragraphs.

20. In accordance with 10 C.F.R. § 55.45(a), the operating test, to the extent applicable, will require the applicant to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a representative sample from among the 13 items specified therein. In particular, Item (11) requires that applicants be able to "[d]emonstrate knowledge of the emergency plan for the facility, including, as appropriate, the operator's or senior operator's responsibility to decide whether the plan should be executed and the duties under the plan assigned." Additionally, Item (12) requires that applicants be able to "[d]emonstrate the knowledge and ability as appropriate to the assigned position to assume the responsibilities associated with the safe operation of the facility."

21. Pursuant to 10 C.F.R. § 55.45(a), the Staff has established detailed criteria for the design of the walk-through portion of operating tests in ES-301, "Preparing Initial Operating Tests," of NUREG-1021. ES-301 requires Category A to cover knowledge and

abilities generally associated with the administrative control of the plant. The category is divided into four administrative topics as described in ¶ 11 above and each is evaluated by administering JPMs or asking specific questions. The depth of coverage required for each topic is based on the applicant's license level.

ES-303, "Documenting and Grading Initial Operating Tests," of NUREG-1021, (Hearing File Item 19), includes guidance for "satisfactory" and "unsatisfactory" performance as well as specific Category A and B grading criteria.

22. Pursuant to 10 C.F.R. § 55.53(d), "[t]he [senior operator] license is subject to, and the licensee shall observe, all applicable rules, regulations, and orders of the Commission." Further, § 55.53(l) requires "[t]he [senior operator] licensee shall comply with any other conditions that the Commission may impose to protect health or to minimize danger to life or property." The Staff expects the SRO's to possess adequate knowledge and to be competent in each topic of Category A. NUREG-1021, ES-301 at 2. (Hearing File Item 34). Applicants for SRO licenses are expected to be competent to safely operate the facility. ES-301 at 6. They are also expected to be able to evaluate plant performance and make operational judgments and have a thorough knowledge of "facility administrative controls and methods, including limitations imposed by the regulations and the facility's technical specifications and their bases." ES-301 at 7.

23. The Staff's expectations for following and complying with the facility's procedures are specifically stated in the licenses it issues to SPOs pursuant to 10 C.F.R. § 55.51. Each license requires the holder "to observe the operating procedures and other conditions specified in the facility license authorizing operation of the facility."

24. Mr. Herring was asked two questions to measure his competency in administrative topic A.2 (Equipment Control). These questions were asked in the Catawba main control room. His failing grade was based on his verbal response to Question 1 regarding operability of the Nuclear Service Water system (designated as the RN system by DEC-Catawba), given a specific set of initial conditions. Administration of this topic area during the examination was designed to ask and confirm the applicant's response to Question 1 prior to addressing Question 2. This was done because the second question - "What configuration control requirements are required to maintain both trains of RN operable?" - was leading and could assist the applicant in correctly answering the first question. (Hearing File Items 3 and 4).

25. I administered the examination as designed by handing Mr. Herring his copy of Question 1 only. (Hearing File Item 3). In response to Question 1, Mr. Herring verbally stated that the RN system was "operable because the other valve in series worked 'OK'. [Therefore, you] can isolate the lake." (Hearing File Item 6). After confirming that Mr. Herring considered the RN system to be operable, I handed him a copy of Question 2. (Hearing File Item 4). I graded his response to Question 1 as unsatisfactory because the RN system is actually inoperable under the question conditions, as defined by Catawba Technical Specifications (CTS), (Hearing File Item 9), and the RN system design basis document. (Hearing File Item 10).

26. As documented in my rough notes, (Hearing File Item 6), Mr. Herring did not address RN system operability in Question 2 (nor did he attempt to change his response to Question 1). However, he did provide the correct response for Question 2 regarding RN

system configuration control for the given condition. I graded his response to Question 2 as satisfactory, despite his incorrect understanding of the RN system's operability, because proper system configuration control was established.

27. Mr. Herring did not provide a written response to either Question 1 or 2, nor did he use or request use of any reference materials beyond those available in the Catawba main control room. I did not limit Mr. Herring's access to any references.

28. I graded Mr. Herring's overall performance in topic A.2 as unsatisfactory because he improperly evaluated the operational status of a safety-related piece of equipment and demonstrated a significant lack of understanding of Technical Specifications (TS) operability. Because he considered the RN System to be operable, the Catawba facility's administrative controls for dealing with TS issues, including tracking of Limiting Conditions for Operation and performing operability evaluations, as described in Operations Management Procedure (OMP) 2-29, "Technical Specification Action Item Log," (Presentation Exhibit 13), could have been circumvented. The NRC relies on SROs properly determining TS system operability and correctly implementing appropriate administrative process controls. As a result, greater importance was assigned to Question 1 over Question 2. This conclusion is also supported by the importance ratings assigned to these knowledge and abilities (K/As) in "Knowledge and Abilities Catalog for Nuclear Power Plant Operators - Pressurized Water Reactors," (NUREG-1122). (Hearing File Item 35).

29. Mr. Herring was asked three questions to measure his competency in administrative topic A.4 (Emergency Plan). These questions were asked in the Catawba

main control room. His failing grade was based on his written response to Question 2 regarding Protective Action Recommendations (PARs) following a change in site conditions from those given in his answer to Question 1.

30. Mr. Herring was handed his copy of administrative topic A.4 Questions 1, 2 and 3, and he wrote his responses to each on the paper just below the respective question. (Hearing File Item 14). Although I generally observed his use of the Emergency Plan while he answered each question, no explanation was given by Mr. Herring regarding how the answers were obtained nor did he make any mention of any difficulties encountered in using the procedure. However, during the time he was working on Question 2, I recollect observing him use Enclosure 4.2, page 3 of 3, of Catawba Procedure RP/0/A/5000/005, "General Emergency," (RP/05), (Hearing File Item 15), instead of page 2 of 3 as expected, and as would have been appropriate for the site conditions given.

31. Mr. Herring's response to Question 1 exactly matched the answer key and I graded this question as satisfactory.

32. Mr. Herring's response to Question 2 was significantly different from the answer key though areas of overlap were noted. Mr. Herring's written answer listed twelve Protective Action Zones (PAZs) requiring evacuation and three PAZs requiring in-place sheltering. Knowing the applicant used Procedure RP/05, Enclosure 4.2, page 3 of 3 (see ¶ 30), I reviewed that table and found the applicant's response exactly matched the PAZs of Enclosure 4.2, page 3 of 3, for the given site conditions. I then researched the procedure to determine how the applicant could have used page 3 of Enclosure 4.2 in place of page 2. I noted that both pages 2 and 3 of Enclosure 4.2 had similar appearances and required care

in assuring the proper table was being used. According to Section 3.0, Subsequent Actions, of Procedure RP/05, the flowchart on Enclosure 4.3, page 1 of 3, should be used in answering Question 2. Using this flowchart, I noted that Enclosure 4.2, page 3 of 3, should be only used if plant conditions exist where "large fission product inventory greater than gap activity [is] in containment." Since neither the initial plant conditions nor the changed conditions met this situation, I concluded that either the applicant improperly used the flowchart (i.e., believed the containment had a large fission product inventory) or he was careless in his use of Enclosure 4.2. Either way, the applicant exhibited poor understanding and improper use of the emergency response procedure.

33. I also noted during grading of Mr. Herring's answer that the answer key for Question 2 conflicted with the PARs given in response to Question 1. The answer key for Question 2 indicated that zones C1 and D1 should be recommended for in-place sheltering. However, as part of the PAR for Question 1, zones C1 and D1 were already recommended for evacuation. The Staff would not expect a licensee to recommend in-place sheltering for a PAZ which had been previously recommended for evacuation, during an event where plant conditions were not stable. Therefore, following discussion with the Catawba staff and with the approval of the Chief, OL&HPB, Region II, I modified the answer key to accept maintaining evacuation of zones C1 and D1 instead of in-place sheltering as a correct response. As a result of this change, Mr. Herring was favorably graded for properly recommending evacuation of all required zones (a total of seven were accepted), but graded lower for inappropriately recommending the evacuation of five unaffected zones. In summary, a correct answer recommended evacuation of only seven PAZs while the

applicant's answer recommended evacuation of twelve PAZs. A total of 15 PAZs are designated at Catawba. I graded the applicant's response to Question 2 as unsatisfactory.

34. The Staff expects the SRO to follow the emergency response procedure, to exercise good judgment and to make appropriate protective action recommendations to the State. The Staff does not consider a facility licensee recommendation to evacuate unaffected PAZs based on improper use of plant procedures to be conservative, in good judgment or in the interest of public health and safety. The Staff considers unnecessary evacuation of the general public to be unacceptable. (Hearing File Item 29).

35. Also, the Staff submits that the NRC operator licensing examination process seeks to determine an applicant's level of knowledge, skill and ability, and then evaluate whether this level meets that needed for a minimally safe and competent operator. As such, the examination is designed to have one correct answer for each question. Responses that display a lack of knowledge, understanding, or familiarity with procedures will be graded as unsatisfactory. (Hearing File Item 19).

36. Mr. Herring's response to Question 3 exactly matched the answer key and I graded this question as satisfactory.

37. I noted that the level of difficulty for Question 3 was low since only two site evacuation locations exist for Catawba, basically Northeast and Southwest of the site. (Hearing File Item 16). Once the wind direction and speed are known (given in the question), determination of the appropriate site evacuation location is rather straightforward. This question possessed low discrimination value for evaluating SRO abilities by

demonstrating only the ability to find the correct information in the facility procedures. Consequently, I gave relatively low importance to a correct or incorrect response to Question 3, as compared to Questions 1 and 2, which were considered of equal importance.

38. Even though Mr. Herring correctly determined the first PAR in Question 1 and correctly determined the proper site evacuation location in Question 3, the consequences of improperly implementing the Emergency Plan, particularly for a General Emergency as specified in Question 2, would have a significant impact on the public, the facility licensee, and Local, State, and Federal emergency response actions. Gross errors in judgment or actions cannot be tolerated. I graded the applicant's overall performance in topic A.4 as unsatisfactory because I considered his demonstrated unfamiliarity with, and improper use of, the Emergency Plan to outweigh the other two correct responses he provided.⁵

39. To date, the following NRC Staff members have evaluated Mr. Herring's performance in Administrative Topics A.2 and A.4 and concluded that it was unsatisfactory:

- Myself, Mr. D. Charles Payne, the NRC examiner who administered the operating test on December 16-18, 1997, observed Mr. Herring's responses, and recommended the original operating test failure by signing Form ES-

⁵ I administered these same administrative questions to one other SRO license applicant during this same Catawba examination. This individual provided the correct responses to both administrative topic A.2 questions and the first two administrative topic A.4 questions. I do not recall, and made no note of, this individual having any difficulty in using or interpreting the Enclosures of Procedure RP/05 during his responses to Questions 1 and 2 of administrative topic A.4.

303-1 (Hearing File Item 2) on January 20, 1998. I was also the NRC chief examiner for the Catawba initial license examinations.

- Another NRC chief examiner, Mr. Michael Ernstes, who independently concurred with the operating test failure by signing Form ES-303-1 on January 20, 1998. Mr. Ernstes did not observe Mr. Herring's performance nor was he personally involved in any other aspect of the Catawba initial license examinations. Mr. Ernstes provided the chief examiner review because the Catawba chief examiner (myself) was also the examiner of record. ES-501, "Initial Post-Examination Activities," of NUREG-1021 (Hearing File Item 20) requires a different examiner provide the independent review under those circumstances. Mr. Ernstes' conclusion and recommendation for license denial were based on the documented results presented on Mr. Herring's Form ES-303-1. (Hearing File Item 2).

- Mr. Thomas Peebles, the Chief of the Operator Licensing and Human Performance Branch, charged with making licensing decisions in NRC, Region II, concurred with the examiners' recommendations by signing Form ES-303-1 on January 21, 1998, and issuing the original license denial letter on January 27, 1998. (Hearing File Item 22). He reevaluated his position in response to Mr. Herring's informal request for a regrade (Hearing File Item 23), found basis to revise the original grade for only administrative topic A.1 and control room system B.1.4, but reiterated his conclusion that Mr. Herring had failed the operating test in a memorandum dated March 2,

on January 27, 1998. (Hearing File Item 22). He reevaluated his position in response to Mr. Herring's informal request for a regrade (Hearing File Item 23), found basis to revise the original grade for only administrative topic A.1 and control room system B.1.4, but reiterated his conclusion that Mr. Herring had failed the operating test in a memorandum dated March 2, 1998. (Hearing File Item 25). This memorandum was supplemented with my additional information on March 13, 1998. (Hearing File Item 26).

- Mr. John Munro, an examiner from HOHB, NRR charged with independently reviewing, assessing and reconciling the applicant's contentions, the Region II informal review results, and the appeal board's results. He found the appeal board had used incorrect grading criteria in its evaluation of the applicant's responses to administrative topic A.4 (see ¶ 17) and recommended that the original examiner grading of unsatisfactory for Category A and failure of the operating test be sustained. (Hearing File Item 30).
- Mr. Lawrence K. Cohen, Senior Emergency Preparedness Specialist in the Emergency Preparedness and Radiation Protection Branch, NRR, reviewed Mr. Herring's responses to Questions 1 and 2 of administrative topic A.4 and the adequacy of Procedure RP/05 in answering these questions. Mr. Cohen's conclusions are documented in a memorandum dated May 15, 1998. (Hearing File Item 29).

- Mr. Robert Gallo, the Chief of the HOHB, NRR, charged with making the final recommendation to the Director of DRCH, NRR regarding the outcome of the informal appeal process, concurred with overruling the appeal board's recommendation and found no basis to change the grading of Category A or the overall operating test in a memorandum dated May 16, 1998. (Hearing File Item 30).
 - Mr. Lee Spessard, Director of DRCH, NRR, charged with making licensing decisions during the examination appeal process, concurred with HOHB's recommendation to sustain the operating test failure in a letter to Mr. Herring dated May 18, 1998. (Hearing File Item 31).
40. The following NRC Staff members evaluated Mr. Herring's performance in administrative topics A.2 and A.4 but concluded that, overall, it was satisfactory. These conclusions were overruled during subsequent Staff review (see ¶ 39):
- Mr. Melvyn Leach, the Chief of the Operator Licensing Branch in NRC, Region III, was charged with chairing an appeal board that independently reviewed Mr. Herring's request for an informal regrade. He found no basis to change the examiner's grading of the applicant's individual question responses but believed that the summary grading for administrative topic A.4 was too harsh and recommended changing the grade to satisfactory with comment. As a result, Mr. Leach recommended changing the overall Category A grade to satisfactory and overturning the initial licensing examination decision. (Hearing File Item 28). This recommendation was

evaluated and overturned by HOHB staff in light of the grading criteria of ES-303 and the applicant's "lack of understanding of the underlying concept of PARs as well as a poor working knowledge of the procedure." (Hearing File Item 30) (see ¶ 17).

- Mr. Larry Briggs, an examiner from NRC, Region I, and Mr. James Ellis, an examiner from NRC, Region III, were the other members of the appeal board. They supported Mr. Leach's review and conclusions stated above. (Hearing File Item 28).

41. The Staff disagrees with the Presentation (Arguments Pertaining to Contention #3) regarding the proper operator action to be taken for the second step of Procedure RP/05, Section 3.0, Subsequent Actions. The step directs the operator to evaluate specific plant conditions and other pertinent information, and assess the need to update the Protective Action Recommendation (PAR) previously made. Because site meteorological conditions were changed significantly in Question 2 from those given in Question 1, an update of the previous PAR per this step was the correct action to take. Also, plant accident conditions had not changed; therefore the Staff believes a knowledgeable applicant would have expected a PAR determination similar in extent to that obtained in Question 1 but affecting different PAZs due to the change in wind direction. The Staff agrees that the subsequent action step of Section 3.0 directs the operator to the flowchart on Enclosure 4.3, page 1 of 3. The operator should enter the flowchart at the "Start" block, proceed through the chart answering each decision block in turn based on plant and site conditions, and perform all associated actions as directed. The applicant states the flowchart's Urgent

blocks correspond to the Immediate Action step of Section 2.0 of Procedure RP/05. (Hearing File Item 15). Since Immediate Action had been performed in response to Question 1, he then proceeded to the next block (i.e., no updated PAR was made as a result of the Urgent block). While the DEC-Catawba staff generally supports this view in the affidavit of E. Thomas Beadle, submitted herewith as part of the Staff's Response, the Staff submits that no procedural guidance or step in Procedure RP/05 directs the operator to skip portions of the flowchart. Nor did the applicant or the DEC-Catawba staff provide any approved facility procedure or emergency plan "user's guide" which sanctioned such an action or omission. The Staff acknowledges that the wording of the Urgent block's actions parallels the guidance from the Procedure RP/05 Immediate Action steps, but the applicant provided no basis for him not performing the Urgent block actions as directed. Indeed, the narrative portion of the applicable Procedure RP/05 Subsequent Actions step required the assessment of the need to update PAR decisions. (Hearing File Item 15, General Emergency, page 3 of 4).⁶

42. The Presentation states that the applicant proceeded from the last step of the flowchart to Enclosure 4.3, page 3 of 3, of Procedure RP/05 where the PAR is to "Recommend evacuation of affected zones and shelter the remainder of the EPZ not evacuated." The Staff agrees that this transition was correct and agrees that the applicant

⁶ The applicant's rationale for passing through the block because Immediate Actions were complete is illogical. Using that line of reasoning means that the only time meteorological conditions become a factor in the decision-making process again is if the wind speed drops to or below 5 mph. The Staff also notes that had the guidance from the Urgent block for wind speed greater than 5 miles per hour been followed, the applicant would have been specifically directed to the proper enclosure required to correctly answer Question 2.

identified the proper PAR guidance on that page. However, the Presentation states that the applicant then proceeded to Enclosure 4.2, page 3 of 3, to determine the affected PAZs. The Staff submits that the applicant has provided no supporting evidence or explanation which justifies his use of Enclosure 4.2, page 3 of 3. The DEC-Catawba staff's view is that, with only two tables provided in Procedure RP/05 to make PARs, Enclosure 4.2, page 2 of 3, is the only applicable table for the question's conditions -- Enclosure 4.2, page 3 of 3, is eliminated since there is no large fission product inventory greater than gap activity in containment. (Beadle affidavit, paragraph 19). The Presentation further argues that the NRC analysis with regard to the applicant's use of the flowchart is incorrect since the actions specified in the Urgent blocks were already performed in accordance with the Immediate Actions section of Procedure RP/05. Even accepting Mr. Herring's argument in this regard - notwithstanding the fact that the applicant has not provided any official, approved procedural documentation to support this assertion (see ¶ 42) - the actions required to determine the correct PARs are identical, in this case, to those delineated in the Urgent block. Given the above, the Staff submits that only misuse of the flowchart and/or unfamiliarity with Procedure RP/05 could result in an operator using Enclosure 4.2, page 3 of 3, under the conditions of Question 2. Indeed, Staff believes a knowledgeable and competent operator, who understood the underlying purposes and uses of the two PAZ Determination Tables in Procedure RP/05, would have questioned why so many additional PAZs should be recommended for evacuation with only a change in wind speed and direction. Furthermore, the applicant's assertion regarding the accuracy of the Staff's statement, detailed in Hearing File Item 29, for the change in plant conditions from Question

1 to 2 is not supported by the initial plant conditions supplied to the applicant for all three of the administrative topic A.4 questions. The fourth initial condition stated that "[a]t 1300, dose assessment crews project a dose at the site boundary of 1.2 rem TEDE." In this case, this information has no effect on the selection of which PAZ Table to use for "evacuation of affected zones," according to Enclosure 4.3, page 3 of 3.

43. The Presentation also contends that Procedure RP/05 provides no procedural guidance in Enclosure 4.3, page 3 of 3, regarding which enclosure should be used at that point to determine affected zones. During the examination, Mr. Herring did not inform the examiner of a problem with the procedure nor did he indicate any confusion regarding how to proceed in a proper PAZ determination. As part of the Catawba SRO training program, Mr. Herring was trained and qualified in the use of the subject procedure prior to his licensing examination, including the use of the PAZ Determination Tables (Beadle affidavit, paragraph 20). Therefore, he should have been knowledgeable of how to handle the decision block on Enclosure 4.3, page 3 of 3. Mr. Herring is also expected to be knowledgeable regarding the actions to take if a procedure is found to be confusing or in error. The Staff does not expect licensed operators to follow procedures they believe to be in error without addressing the issue with licensee management. If Mr. Herring had reached the conclusion that the subject procedure was confusing, or in error, during his examination, the proper action would have been to raise the issue with the examiner. The examiner, acting as the Operations Shift Manager (OSM) having tasked Mr. Herring to perform the PAR, would have then attempted to resolve the issue before proceeding further. No such action was taken or indication made in this regard by Mr. Herring. The Staff acknowledges

that Enclosure 4.3, page 3 of 3, does not provide specific guidance for the subsequent evaluation and that some improvements could enhance operator usability. But both the Staff and the facility licensee (DEC-Catawba) believe the procedure, as written at the time of the examination, was adequate for the applicant to make a proper updated PAR determination. (Beadle affidavit, paragraph 21). Also, both the Staff and the facility licensee believe a competent and knowledgeable operator would recognize that (1) only two pages of Enclosure 4.2 (page 2 of 3 and page 3 of 3) contain any guidance for making PAZ recommendations and (2) that page 3 of 3 is only used in specific fission product release conditions. (Beadle affidavit, paragraphs 18, 19). These were not the conditions described in Question 2 of administrative topic A.4.⁷ Consequently, only page 2 of 3 should be used. The Staff maintains that Mr. Herring's performance was and still is unsatisfactory.

44. The Presentation argues that there is no guidance in Procedure RP/05 to determine which page of Enclosure 4.2 to use and that the procedure is thus "faulty." The Presentation states this argument is supported by discussions with Mr. Steve Christopher, Supervisor of Emergency Planning and by subsequent revision of the procedure.⁷ The Staff notes that Mr. Christopher's opinions are not shared by Catawba management, (Beadle affidavit, paragraph 21), or the NRC staff. Further, Mr. Christopher has offered inconsistent opinions on this issue as evidenced in Hearing File Item 33(b) and Presentation Item 4. First, on February 5, 1998, Mr. Christopher stated in an internal DEC-Catawba

⁷Also, the Staff notes that Revision 33 to Procedure RP/05 was not issued solely in response to Mr. Herring's concern. On October 28, 1997, well before the applicant's examination, Mr. Christopher initiated a "10 C.F.R. 50.59 Evaluation Screening Justification Attachment" for Revision 33 to Procedure RP/05 which provided form improvements and other editorial changes to the procedure (Hearing File Item 33.A).

PROFS note (electronic mail) to Mr. Scotty Bradshaw, Operations Training Supervisor, ". . . the procedure could be enhanced to improve human factors performance." The Staff submits that procedure enhancement is not equivalent to procedure inadequacy. Then on August 5, 1998, Mr. Christopher responded to four written questions from Mr. Herring (Presentation File Item 4). In response to Question 2 regarding whether Enclosure 4.3, page 3 of 3, provided adequate guidance as to which zones to evacuate, Mr. Christopher wrote "[t]he arrangement of the procedure made this determination extremely difficult if not impossible. Again based on our review of RP/05 following this exam question, RP/05 was revised." As stated above, Mr. Christopher's conclusion regarding the adequacy of the procedure is not supported by Catawba plant management, (Beadle affidavit, paragraph 21), or the question validation process implemented by Catawba during examination development. During Catawba's validation, the questions were given to active licensed operators to confirm the appropriateness of the subject question and to confirm the correct answer. Then each question was reviewed and approved by a member of management from the Catawba-Operations group (Beadle affidavit, paragraph 11). Additionally, as noted above (see footnote 5), one other applicant, trained and qualified in the same manner as the applicant, was administered the same operating test. The examiner has stated that this other applicant exhibited none of the difficulties or problems cited by Mr. Herring in his Presentation. In addition, the Catawba staff has stated that "the revisions made were human factors enhancements and did not invalidate Question 2, as originally written." (Beadle affidavit, paragraph 21). The Staff notes that licensee procedures are constantly being reviewed, revised and improved as evidenced by the fact that the subject procedure is

currently on Revision 34. A less than optimal, but accurate, procedure does not excuse poor operator performance or lack of knowledge. Likewise, the fact that a procedure has been revised does not mean it was not useable or that other future improvements won't be made.

45. Finally with regard to Contention #3 of the Presentation, the Staff disagrees with the suggestion that Question 2 not be considered in the overall grading of topic A.4 because the question did not have a path to success due to a faulty procedure. The Staff submits that a path to success did exist with the procedure available at the time of the examination and this path was effectively followed by other Catawba personnel and another applicant. The Staff continues to find that the applicant's failure to identify this success path demonstrates an unfamiliarity with the procedure and improper use of Enclosures 4.2 and 4.3 of Procedure RP/05. In conclusion, the Staff believes Procedure RP/05 was adequate to answer Question 2 and therefore the question should be retained. Also, the Staff believes that the demonstrated lack of understanding of Procedure RP/05 by Mr. Herring as well as the significance of his incorrect answer to Question 2 justifies not only a grade of unsatisfactory for the question, but unsatisfactory for administrative topic A.4 as a whole. This view is consistent with the ES-303 grading criteria for Category A topics. (Hearing File Items 19, 30).

46. The Presentation (Arguments Pertaining to Contention #4) states that Mr. Herring told me that 1RN-1A needed to be kept closed with power removed in his answer to Question 1 of Topic A.2. As I wrote in my response to his request for informal NRC review, (Hearing File Item 26), this information was provided in response to Question

2. Mr. Herring only provided this information after I had confirmed that he considered the RN system to be operable and after I considered Question 1 to be complete. I have no recollection, and the examination notes do not support, (Hearing File Item 6), that Mr. Herring indicated that power should be removed from valve 1RN-1A to make the RN System operable. Indeed, the Presentation states "I emphasize that I said the RN system was operable and I did not and still do not consider removing power from 1RN[-]1A a condition of operability." This statement supports my grading of applicant's response to Question 1 of topic A.2. My recollection is that applicant's discussion regarding power removal from 1RN-1A was solely related to being a routine facility administrative practice and not related at all to being needed from a CTS operability perspective. My contemporaneous notes, (Hearing File Item 6), do not indicate that such a comment was made by the applicant during his response to Question 1 but rather during his response to Question 2.

47. The Staff disagrees with the Presentation that removing power from 1RN-1A is not a condition of operability. The licensee (Catawba) expects licensed operators to make system operability determinations using OMP 2-29 (Presentation exhibit 13), Nuclear System Directive (NSD) 203, "Operability," (Presentation exhibit 9), Catawba Technical Specifications (CTS) (Hearing File Item 9), and the Design Basis Document (DBD) for the affected system(s). (Hearing File Item 10; Beadle affidavit, paragraphs 5-9; Leach affidavit). OMP 2-29 and NSD 203 are guidance documents which provide generic insight and perspective concerning operability, whereas the CTS and DBD are system specific with detailed requirements and action statements. As such, the facility licensee has attested that given the situation presented in Questions 1 and 2 of administrative topic A.2, the proper

licensed operator action is to apply TS 3.7.4 and refer to the RN System DBD for evaluation of valve 1RN-2B. (Beadle affidavit, paragraphs 7, 9). Consequently, the "A" loop of the RN System should be declared inoperable per TS 3.7.4 based on valve 1RN-2B not being capable to position the RN System to the Standby Nuclear Service Water Pond. The Staff also notes that even though the applicant was expected and permitted to use references to respond to Question 1, this question can be answered without references because a licensed operator is expected to know, and be able to properly apply, the TS definition of "operability" as well as know that the RN System is a TS system.

48. The Presentation also argues that the DBD recommended action statements should not be considered equivalent to TS action statements and as such should not be relied upon solely as the basis for restoring the RN system to operability. The Staff agrees that after performing the DBD specified action to close and remove power from 1RN-1A, a complete operability evaluation should be performed and reviewed by Operations management prior to exiting the TS 3.7.4 action statement and declaring the RN operable again. However, that situation was not presented in these two questions. This licensing examination serves to assure that applicants for an SRO license are familiar with and will operate the plant in accordance with the facility's license requirements (including Technical Specifications), plant normal, abnormal, and emergency operating procedures, and management's administrative procedures. The Catawba staff has stated that "operations management expects the licensed operator to follow this guidance [RN Design Basis Specification, Section 20.4.2.1 Power Operated Valves] and declare the 'A' loop inoperable." (Beadle affidavit, paragraph 7). Mr. Herring's answer during his examination

as well as his arguments during the informal review and in the Presentation demonstrate he does not meet these expectations.

49. The Presentation argues that the examination answer key was based solely on the Recommended Action Statement of the DBD and thus conflicts with the general guidance of the Design Basis Specification (DBS) and OMP 2-29. The Staff disagrees with this conclusion. The answer to the configuration control requirements question for the conditions presented in administrative topic A.2 (Question 2) was based on the DBD. However, the answer to the operability question (Question 1) was based on the CTS definition of operability (also defined in NSD 203) and its applicability to CTS 3.7.4.

50. The Presentation also argues that "[CTS] 3.7.4 does not require that the RN system be capable of automatically aligning to the pond, just that it be capable of being manually aligned to the SNSWP." The applicant correctly states the definition of operable/operability in his Presentation, however, his interpretation of how to apply this definition to the CTS is flawed. Per the definition found in NSD 203, "[a] system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s)" (Presentation exhibit 9). One of the safety functions of the RN system is the capability to automatically swap from Lake Wylie to the Standby Nuclear Service Water Pond (SNSWP) upon receipt of an emergency low pit level signal (e.g., loss of Lake Wylie dam or a suction line break). (Presentation exhibits 5, 6). Valve 1RN-2B is one of two redundant isolation valves in the suction line from Lake Wylie to the RN Pump Pit for loop "A." This valve receives a close signal from the Engineered Safety Features Actuation System (ESFAS) to automatically isolate the RN

Pump Pit from the Lake as part of the swap to the SNSWP. Valve 1RN-2B is a component of the RN System which must be capable of automatically closing as part of the automatic swap over safety function of the RN system. When 1RN-2B would not close in the initial conditions of the question, the RN system did not meet the operability requirements as all necessary attendant components were not capable of performing their related functions, and thus the "A" loop of the RN System was inoperable.

51. Also, the Presentation argues that CTS 3.3.2 (Table 3.3.3, Engineered Safety Features Actuation System Instrumentation, Functional Unit 14.g) provides the requirement for the RN System to be capable of aligning automatically (from Lake Wylie to the SNSWP). This is incorrect. Catawba TS 3.3.2 states the operability requirements for the ESFAS instrumentation. The ESFAS instrumentation provides seven separate start and/or realignment signals to the RN System when specific conditions are met. Consequently, CTS 3.3.2 relates only to ESFAS operability for the various initiation signals sent to the RN System while CTS 3.7.4 relates to RN System operability in its capacity to respond to the initiation signals received from ESFAS. Specifically, Functional Unit 14.g provides that low water level in the RN Pump Pit (e.g., the dam for Lake Wylie breaks or the suction line breaks) will result in an ESFAS signal to swap the RN System from the Lake to the SNSWP. The failure of 1RN-2B to close has no impact on the RN Pump Pit level instrumentation; therefore, ESFAS operability per CTS 3.3.2 is not affected. The Staff submits that these statements from the applicant further demonstrate that the applicant lacks a fundamental understanding of the terms "operable" and "operability" as they relate to

Technical Specifications in addition to not being able to properly identify which TS are applicable.

52. The Presentation further argues that with the 1RN-1A closed (per the initial conditions of the question) and since the valve does not receive any [automatic] open signals, the applicant was correct in evaluating the RN System as operable. The Staff agrees that the configuration presented in administrative topics A.2 initial conditions aligned the RN Pump Pit to the SNSWP and isolated Lake Wylie from the pit (except for valve 1RN-2B). However, the Staff asserts that in this alignment the RN System was functional (i.e., capable of sustaining adequate nuclear service water flow to the plant) but not operable per CTS because valve 1RN-2B was not capable of manually or automatically closing. The Staff also notes that facility operators are routinely presented with situations where a piece of equipment (e.g., a Safety Injection pump) is available for use if needed, and therefore functional, but per Technical Specifications the equipment was still inoperable because some associated instrument or backup power supply (e.g., the same train Emergency Diesel Generator) was out of service.

53. The Presentation also cites NSD 203, "Operability," Appendix A, page A-203-28 [Section 2.b.1).iv] as supporting the applicant's position that with valve 1RN-1A being already closed (per the initial conditions), the RN System was already placed in an alignment that allowed a determination that the system was operable.⁸ The Staff notes

⁸ Additionally, the Presentation states that the applicant completed an "operability evaluation" per NSD 203 which supports his conclusion that the RN System was operable and that the answer key was incorrect. I did not receive such an evaluation during Mr. Herring's response to either question of administrative topic A.2, nor did Mr. Herring request to perform such an evaluation. It was also not provided during the applicant's initial

that NSD 203 is a DEC corporate level policy document applicable to all three of DEC's nuclear sites. Section 203.1, "Purpose" of NSD 203 states the directive provides "guidance for [facility] development and use of compensatory measures." (Presentation exhibit 9). That is, each site may develop facility-specific compensatory actions that fall within the bounds of the guidance. Therefore, facility developed, compensatory actions may be equal to or more limiting than described in the NSD. The Staff also notes that closer reading of the NSD section referenced by the Presentation reveals a subtle aspect of the NSD policy. Specifically, NSD 203 states that ". . . the compensatory measure is to place the valve [emphasis added] in its ESF position." The "valve" in this situation is 1RN-2B, not 1RN-1A. Since it is known that valve 1RN-2B will not close, and its ESF position is closed, the compensatory action described in the applicant's cited reference cannot be accomplished. The Staff agrees that having 1RN-1A in the closed position has the equivalent effect on that portion of the RN suction piping, but NSD 203 does not specifically address this condition. However, as permitted by NSD 203, this situation is specifically addressed in the RN System DBD. (Hearing File Item 10). Consequently, the required compensatory action in this case is to close 1RN-1A and remove power from the valve. The Staff's conclusion on this operability determination is supported by the facility licensee. (Beadle affidavit, paragraphs 7-9).

request for informal review of his examination grading. Such an operability evaluation is done only after the initial inoperability decision has been made by the SRO and it is generally done by other licensee personnel. It is, therefore, irrelevant to the issue under consideration.

54. Further, the Presentation also states that "[p]er NSD-203, it would be permissible to place an operations information sticker on the valve control station to prevent changes in valve position." The staff submits this assertion is irrelevant since the applicant made no such statement during the examination.

55. Finally, the Presentation argues that "... a satisfactory rating on one or both of the contentions being argued here is enough to give an overall satisfactory rating and to grant a license." This statement is incorrect. Per ES-303.D.2.a of NUREG-1021, (Hearing File Item 19), only a satisfactory rating on both contentions guarantees an overall satisfactory grade for Category A. If the applicant is graded as unsatisfactory in only one administrative topic, the examiner may fail the applicant in Category A depending on the importance of the identified deficiency. (Hearing File Item 19). The Staff believes that both of the deficiencies documented in the applicant's Operator Licensing Examination Report (Hearing File Item 2), and argued herein are significant weaknesses, but has made no determination regarding the applicant's overall grade for Category A should the grading for one of the test items be overturned.

56. The Staff determined Mr. Herring's overall grade for the Administrative Topics (Category A) using the criteria of ES-303.D.2.a from NUREG-1021 which states, in part, "... if the applicant has a 'U' in two or more of the administrative topics, the examiner must assign a grade of 'U' for Category A." Mr. Herring's performance in administrative topic areas A.2 and A.4 does not meet the passing threshold of the Examiner Standards, and the Staff does not find adequate justification for changing this grading based on information supplied in the Presentation or in Mr. Herring's affidavit.

SUMMARY OF NRC REVIEW

57. In summary, the NRC Staff has concluded the following based upon its review of all relevant documents, including the Presentation and Mr. Herring's affidavit:

- Contrary to the NRC's and DEC's requirements and expectations, Mr. Herring failed to properly apply Procedure RP/0/A/5000/005, "General Emergency," during his response to Question 2 of administrative topic A.4, in that he incorrectly used Enclosure 4.2, page 3 of 3, rather than the appropriate page 2 of 3. This resulted in the incorrect recommendation to evacuate five additional PAZs beyond those required per the procedure guidance. The action was unwarranted based on the plant and meteorological conditions of the questions. In addition, the risk to public health and safety was increased by the inappropriate evacuation of five protective action zones during severe weather conditions.

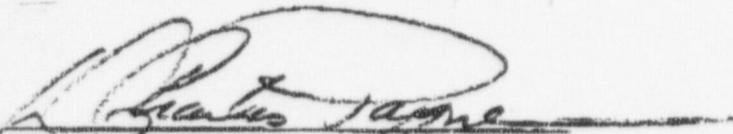
2. Contrary to the NRC's and DEC's requirements and expectations, Mr. Herring failed to properly assess the operability status of a safety-related system covered by Catawba Technical Specifications in Question 1 of administrative topic A.4. Even though the applicant subsequently stated configuration control actions which were directed by the Design Basis and would have made the RN System operable, his initial determination that the RN System was operable, as well as his subsequent arguments in his request for informal review and this Presentation, demonstrates a significant lack of understanding of Technical Specifications, system "operability," and the proper implementation of Catawba's administrative controls.

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- Contrary to the Presentation's assertion, the NRC Staff does not believe that its grading of Mr. Herring was inaccurate or too severe, nor does the Staff believe that the NRC's grading standards have been improperly applied.

58. Based upon the above, the Staff has concluded that Mr. Herring's final grade of unsatisfactory for administrative topics A.2, "Equipment Control" and A.4, "Emergency Plan," remains below the minimum passing grade. Therefore, Mr. Herring has failed the operating test and the licensing examination. The NRC Staff's denial of Mr. Herring's application for an SRO license should be sustained.

59. I hereby certify that the foregoing is true and correct to the best of my knowledge, information, and belief.



D. Charles Payne, Senior License Examiner

Subscribed and sworn to before me
this ___ day of September 1998.

Notary Public

My commission expires: _____

D. CHARLES PAYNE

PROFESSIONAL QUALIFICATIONS
OFFICE OF NUCLEAR REACTOR REGULATION - REGION II
U.S. NUCLEAR REGULATORY COMMISSION

My name is Charles Payne. My business address is: Sam Nunn Atlanta Federal Center, 61 Forsyth Street SW, Suite 23T85, Atlanta, Georgia 30303. I am employed by the United States Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation as a Senior Operator License Examiner and Inspector in the Operator Licensing and Human Performance Branch of the Region II Division of Reactor Safety.

I graduated from Vanderbilt University in 1975 with a Bachelor of Arts degree in Mathematics and Business Administration and from Augusta State University in 1984 with a Masters degree in Business Administration. Upon graduation from Vanderbilt University, I was commissioned as an officer in the United States Navy and entered the Naval Nuclear Power Program under the direction of Admiral H. G. Rickover. Following one year of intensive classroom and on-the-job training, I was certified as an Engineering Officer of the Watch (EOOW) responsible for supervision of the activities of a naval nuclear reactor.

I served two years aboard the nuclear cruiser USS CALIFORNIA and one year aboard the nuclear aircraft carrier USS NIMITZ in various supervisory engineering positions

before resigning my commission in 1980 to join the Department of Energy at the Savannah River Operations Office near Aiken, South Carolina. My duties there as a senior nuclear engineer in the Reactors Branch included: reactor safety overviews, reactor research and development overview, project management, short-term and long-term budget and planning oversight, and operating performance overview.

In November 1986, I transferred to the U.S. Nuclear Regulatory Commission (NRC) as an Operator License Examiner. During the initial training period, I completed the NRC's General Electric Boiling Water Reactor (BWR) Technology and Advanced Technology courses and in August 1987 certified as an Examiner on BWRs. Later in 1987 I certified as a Chief Examiner and led license examination teams at various BWR facilities in Region II. I have subsequently been certified to administer license examinations at the following additional types of nuclear facilities: Non-Power Reactors, Westinghouse Pressurized Water Reactors (PWRs), Babcock & Wilcox PWRs, and Combustion Engineering PWRs. Most recently in September 1994, I certified as a Reactor Operations Inspector for all vendor types.

Currently, I primarily serve as one of several Chief Examiners in Region II responsible for the overall conduct and administration of the operator licensing process by a team of NRC examiners at any of the above reactor facilities. I am also the Principal Examiner for Duke Energy Corporation's Catawba, McGuire and Oconee nuclear plants

responsible for the coordination of operator licensing activities (including medical qualifications) between these sites and the Commission.

Admin Set 4

Initial Conditions

1. At 1100 EP/1/A/5500/E-0 Reactor Trip/Safety Injection procedure was entered due to a uncontrolled depressurization of the 1D steam generator.
2. At 1120 E-2, Faulted Steam Generator Isolation was entered. It was determined that the steamline break was unisolable. Containment conditions are normal.
3. At 1125 while in E-2 there are indications of a tube rupture in the 1D steam generator and EP/1/A/5500/E-3 is entered.
4. At 1300 dose assessment crews project a dose at the site boundary of 1.2 rem TEDE.
5. At 1301 the OSM declares a General Emergency.

Question 1(reference allowed)

It is now 1305 and the Operations Shift Manager directs you to evaluate the Protective Action Recommendations for the initial notification based on current plant conditions. Currently, winds are 8 mph, and Upper wind direction indicates 380 degrees. What, if any are your recommendations.

Question 2(reference allowed)

It is now 1330 and a thunderstorm has moved across the site with winds in excess of 20 mph and Upper wind direction indicates 200 degrees. What, if any does the change in weather affect the above decision.

Question 3(reference allowed)

It is now 1400 a site assembly has been conducted and the Operations Shift Manager informs you that non-essential personnel must be evacuated from the site. Based on the conditions at 1330 what recommendations, if any would you provide the OSM.

Admin Set 4

Initial Conditions

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2. At 1120 E-2, Faulted Steam Generator Isolation was entered. It was determined that the steamline break was unisolable. Containment conditions are normal.
3. At 1125 while in E-2 there are indications of a tube rupture in the 1D steam generator and EP/1/A/5500/E-3 is entered.
4. At 1300 dose assessment crews project a dose at the site boundary of 1.2 rem TEDE.
5. At 1301 the OSM declares a General Emergency.

Question 1(reference allowed)

It is now 1305 and the Operations Shift Manager directs you to evaluate the Protective Action Recommendations for the initial notification based on current plant conditions. Currently, winds are 8 mph, and Upper wind direction indicates 380 degrees. What, if any are your recommendations.

Answer

Recommends evacuation of zones A0, C1, D1
Recommends in-place shelter for zones A1, A2, A3, B1, B2, C2, D2, E1, E2, F1, F2, F3

Question 2(reference allowed)

It is now 1330 and a thunderstorm has moved across the site with winds in excess of 20 mph and Upper wind direction indicates 200 degrees. What, if any does the change in weather affect the above decision.

Answer

Reevaluates decision based on change in the weather.
Recommends evacuation of additional zones A1, B1, E1, F1
Recommends in-place shelter for additional zones C1, D1

Question 3(reference allowed)

It is now 1400. A site assembly has been conducted and the Operations Shift Manager informs you that non-essential personnel must be evacuated from the site. Based on the conditions at 1330 what recommendations, if any would you provide the OSM.

Answer

Recommends evacuation of non-essential site personnel to location ALPHA, which is the Duke Power, Power Delivery, Rock Hill Office.